

REMARKS

Claims 1-19 are pending in the present application. Claims 1 and 10 are independent claims.

The specification and claims have been revised slightly to correct minor informalities and to clarify the invention. These modifications do not add any new matter to the disclosure.

35 U.S.C. § 102 REJECTION

Claims 1, 2, 5-9, 10, 11 and 15-19 have been rejected under 35 U.S.C § 102(b) as being anticipated by *Adams et al.* (U.S. Patent No. 5,760,838). This rejection is respectfully traversed.

Regarding independent claims 1 and 10, the Examiner has rejected these claims by pointing out only the components of the interactive video system disclosed by *Adams et al.* But, the Examiner has not given full consideration to each feature or limitation associated with each of these components as recited in the independent claims. For example, although *Adams et al.* may disclose a display device 12, this display device does not perform the functions and the operations that are required by the claims and also does not include the characteristics that are required by the claims.

More specifically, the display device 12 of *Adams et al.* displays display windows 40 and 46, a selection regions 42, and a display icon 44 based on the

associated data obtained from an input data stream. However, such a display device does not display an object information or detail information when the user selects a particular object being displayed in the selected program and requests to view detailed information on the selected object, as required by Applicants' claimed invention.

Adams et al. also does not disclose a selector which includes a key for requesting detail information on a selected object in a selected program, as required by Applicants' claimed invention.

Therefore, *Adams et al.* does not teach or suggest, *inter alia*:

a selector . . . which includes a key for requesting detail information on a selected object in a selected program; . . .

a display which displays an object information stored in the storage when the user requests to view detail information on a particular object being displayed in the selected program, through said key on the selector, where said object information corresponds to the object being displayed and selected by the user from the objects of the selected program

as recited in independent claim 1; and

receiving a program selection input . . . through a selector which includes a key for requesting detail information on a selected object in a selected program;

. . . displaying an object information stored in the storage when the user requests to view detail information on a particular object being displayed in the selected program, where said object information corresponds to the object being displayed and selected by the user from the objects of the selected program

as recited in independent claim 10.

Accordingly, independent claims 1 and 10 and their dependent claims (due to the dependency) are allowable over *Adam et al.*, and reconsideration and withdrawal of the rejection based on these reasons is respectfully requested.

Claims 1-19 have been rejected under 35 U.S.C § 102(e) as being anticipated by *Yasuki et al.* (U.S. Patent No. 6,285,407). This rejection is respectfully traversed.

Similar to the rejection of the claims in view of *Adams et al.*, the Examiner has rejected the claims in view of *Yasuki et al.* by merely pointing out that *Yasuki et al.* may disclose the components that are recited in independent claims 1 and 10. The Examiner is respectfully reminded that every feature or limitation that is recited in a claim must be given full weight.

Regarding independent claims 1 and 10, the Examiner has alleged that *Yasuki et al.* shows the selector and the display recited in independent claim 1 and the corresponding steps recited in independent claim 10. However, the selector and display of *Yasuki et al.* are completely different from the selector and the display required by independent claim 1 and the corresponding steps required by independent claim 10.

More specifically, as shown in Figs. 4A-5C, *Yasuki et al.* connects to the Internet when the user selects the "yes" button on the screen as shown in Fig. 4B. Then, *Yasuki et al.*'s system accesses a prestored web address and displays data stored at that address. In the example shown in Fig. 5B, the prestored web address results in the display of the score of other games, and not the game that is being displayed. In another example, the prestored web address displays the guide to betting rules associated with the soccer game being displayed. However, *Yasuki et al.* in nowhere discloses the claimed feature of displaying object information or detailed information on a particular object that is being displayed and selected by the user from multiple objects of the selected program, where detailed information on each of the objects is stored in a storage. In other words, in *Yasuki et al.*, the user does not and cannot select one of the objects being displayed on the display, but instead the information that is stored at the predetermined website address is always and automatically displayed once the Internet connection is made.

Therefore, *Yasuki et al.* does not teach or suggest, *inter alia*;

a selector . . . which includes a key for requesting detail information on a selected object in a selected program; . . .

a display which displays an object information stored in the storage when the user requests to view detail information on a particular object being displayed in the selected program, through said key on the selector, where said object information

corresponds to the object being displayed and selected by the user from the objects of the selected program

as recited in independent claim 1; and

receiving a program selection input . . . through a selector which includes a key for requesting detail information on a selected object in a selected program;

displaying an object information stored in the storage when the user requests to view detail information on a particular object being displayed in the selected program, where said object information corresponds to the object being displayed and selected by the user from the objects of the selected program

as recited in independent claim 10.

Accordingly, independent claims 1 and 10 and their dependent claims (due to the dependency) are patentable over *Yasuki et al.*, and reconsideration and withdrawal of the rejection based on these reasons is respectfully requested.

CONCLUSION

For the foregoing reasons and in view of the above clarifying amendments, Applicants respectfully request the Examiner to reconsider and withdraw all of the objections and rejections of record, and earnestly solicit an early issuance of a Notice of Allowance.

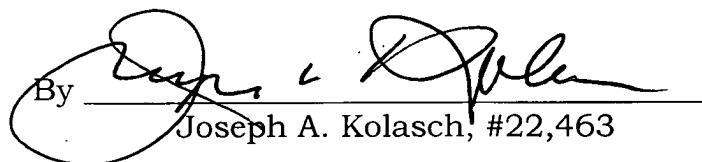
Should there be any matters which need to be resolved in the present application, the Examiner is respectfully requested to contact Esther H. Chong (Registration No. 40,953) at the telephone number of the undersigned below.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASH & BIRCH, LLP

By 
Joseph A. Kolasch, #22,463

P.O. Box 747
Falls Church, VA 22032-0747
(703) 205-8000

JAK/^{enc}EHC:lmh:sld

Enclosures: Version with Markings to Show Changes Made

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification

The specification has been amended as follows:

On page 1, lines 3-5 have been amended as follows:

--The present invention relates to a TV, and more particularly, to a device and method for displaying additional information to a TV program.--

Page 1, line 8, through page 3, line 25 has been amended as follows:

--Generally, an audio/video signal transmitted to a TV also includes additional information data. Particularly, the additional information data, such as a weekly broadcasting guide information, is provided to better serve the viewers. Therefore, a TV receiver requires a demultiplexer, by which a received signal is separated into a video signal, an audio signal, and additional information data. Namely, the demultiplexer separates either a Transport Stream (TS) or a Program Stream (PS) which includes a plurality of elementary data streams such as the video, audio and other additional information combined by a broadcasting station for storage or for transmission of data.

Thus, the additional information may be displayed on a TV screen with or separately from a broadcasted image by an Electronic Program Guide (EPG).

Particularly, the EPG contains basic TV guides for program times and channels as well as detail information such plots, the type of program, whether the program is pay TV, or other available services. Thus, viewers can obtain information about present and future TV programs directly from a TV screen, without the need of other guide mediums such as a newspaper. As the number of channels and programs increase, the EPG provides a more convenient tool in searching for and/or viewing a program.

Fig. 1 is a block diagram of a typical digital TV receiving and displaying program guide information. The digital TV includes a remote control 101 which allows viewers or users to control [of] the TV by radio signals; a remote receiver 102 which receives signals output by the remote control 101 and outputs a key code value corresponding to a key input by the user through the remote control 101; a tuner 103 which tunes frequency corresponding to a desired channel among the signals received through an antenna or a cable; a demodulator 104 which demodulates the tuned channel frequency by a reversed modulation; a demultiplexer 105 which demultiplexes and separates the demodulated signal into an audio/video signals and additional guide information data; an audio/video decoder 106 which decodes the audio/video signal separated by the demultiplexer 105; a display unit 107 which displays the decoded signal; a storage 108 which stores the program guide information data separated by the demultiplexer 105; a controller 109 which controls the tuner 103, the

demodulator 104, the demultiplexer 105, the storing and the displaying of the program guide information data, in accordance with the signal from the remote receiver 102; and a memory 110 which temporarily stores the data from the storage 108 in accordance with the control of the controller 109.--

On page 5, lines 7-25, have been amended as follows:

--The audio/video decoder 106 decodes the audio/video signals and outputs the decoded signal to the display unit 107. The display unit 107 displays the decoded video signals on a TV screen and plays the decoded audio signals through a speaker. The additional information data regarding a program being displayed on the display unit is read from the storage 108 by the controller 109 and temporarily stored in the memory 110. The controller 109 then informs users through the display unit 107 that there is additional information for the program being displayed. If there is a request to view the additional information from the user, the controller 109 reads the additional information data stored in the memory 110 [109] and displays the information on the display unit 107.

Therefore, the digital TV as described above can display information regarding the program such as a program content, program time, names of heroes, if additional information is transmitted by broadcasting stations or

external program providers. But [As a result], a user's request for more information cannot be met due to the limitation of the EPG data.--

On page 6, lines 7-11 have been amended as follows:

--Another object of the present invention is to provide an apparatus and method for displaying additional information from an external source such as the [an] Internet, thereby providing a variety of information even if information on a program is not included in the additional information.--

On page 8, lines 14-17 have been amended as follows:

--Also, a modulation/demodulation unit may be added for detecting the detail information of items selected from the Internet and storing the information in the storage if at least one item list is selected through the selector.--

On page 10, the heading at line 7 has been amended as follows:

--DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS--

Page 11, line 19, through page 12, line 8, has been amended as follows:

--FIG. 3 shows an example of data stored in the object data memory 203 of FIG. 2. As shown, an object table including a number of tables, table IDs

and object names for objects in a program is stored. Also, a characteristics table including information such as media type, a number of frames, positions, sizes and states of an object for each object corresponding to a table ID is stored. The operation of the present apparatus for displaying additional information will next be described.

The demultiplexer 105 demultiplexes the program selected by a user from a signal demodulated at the demodulator 104 and separates the program into the audio/video signals and the additional information data in response to a control signal from the controller 201. The audio/video signals are output to the audio/video decoder 106, and the additional information data is output to the MODT decoder 202.--

Page 12, line 25, through page 13, line 22, has been amended as follows:

--Thus, the controller 201 informs a user that there is detail information on objects in addition to the program being displayed. The existence of detail information on an object may be informed using any one sense of a user such as sight or sound. For example, an identification figure, such as an icon or a list in a form of menu may be used. In the latter case, object names having corresponding detail information may be listed on the menu.

Accordingly, a user may press or select a key on the remote control 101 to request a display of the detail information on an object upon noticing the

message that there is detail information on objects in the program being displayed. The remote receiver 102 then receives a signal from the remote control 101, and outputs to the controller 201 a signal for requesting a display of the detail information on the selected object. The controller 201 extracts the detail information corresponding to the selected object from the object data memory 203, temporarily stores the extracted information in the memory 110, and reads and displays the detail information from the memory 110 on the display unit 107 at a preset position around the selected object of the program being displayed. Namely, detail information on all or one object(s) selected by the remote controller 101 is displayed at a preset position around a corresponding object.--

Page 14, line 8, through page 15, line 3, has been amended as follows:

--An example of a list automatically extracted is as follows. If the program being displayed is a relay broadcasting of a baseball game in which Chanho-Park appears, the list may include Chanho-Park, LA Dodgers, or the Major League. If a user finds interest in an item automatically extracted and displayed, the user may press or select a key on the remote control 101 to request a further display. Otherwise, the user may enter a request for a desired information directly by means of a character input feature on the remote control 101. The remote receiver 102 receives a signal from the remote control

101, and outputs to the controller 201 a signal to search for the information requested by the user.

In response, the controller 201 controls the modem 204, a modulator and a demodulator, and connects to the Internet or other network outside of the TV receiver to search for the requested information. The controller 201 stores a result of the search in the object data memory 203. Here, the connection to the Internet may be by cable or radio depending on the type of the modem 204. Also, if a direct connection is formed to a modem of a program provider, the detail information may be obtained through a server or host of the program provider.--

Page 15, line 9, through page 17, line 20 has been replaced as follows:

--Furthermore, even if the additional information data does not include detail information on each object, i.e. includes simply information on the program itself, the additional information data from the demultiplexer 105 is stored in the object data memory 203 and reception of the additional information data is informed to the user. Thus, if a user wishes to view detail information on an object while viewing the additional information such as the EPG information, a user may press or select a key on the remote control 101 to request a display of the detail information on an object.

As in obtaining further detail information other than the information included in the additional information, the controller 201 controls the modem 204, a modulator and a demodulator, and connects to the Internet or other network outside of the TV receiver to search for the detail information. The controller 201 stores a result of the search in the object data memory 203. Here also, the connection to the Internet may be by cable or radio depending on the type of the modem 204 and the detail information may be obtained through a server or host of the program provider if a direct connection is formed to a modem of a program provider.

Thus, the controller 201 extracts the detail information obtained through the modem 204 from the object data memory 203, loads the extracted information on the memory 110, and displays the detail information on the display 107 at a preset position of a program being displayed. Alternatively, the controller 201 may automatically extract[s] a list of possible items that the user may wish to view from the data stored in the object data memory 203; and displays the list on the display 107 at a preset position of a program being displayed such that a user may select an item of interest. In such case, the controller 201 would extract and display the detail information corresponding to the selected item from the memory 110.

Therefore, in the present apparatus, a search for detail information may be made if the additional information does not include a detail information, or

a search for further detail information not included in the additional information may be made through a modem. Also, in the above embodiment, the searched information is stored in the object data memory 203 when a search for information is requested through the modem. However, the searched information may alternatively be displayed as a list in the form of a menu at a preset position of the TV screen. Thus, a user may select and display a particular information from the list using the remote control. Moreover, the menu may allow the user to store the searched information in the object data memory 203, if desired.

Therefore, the apparatus and method for displaying additional information according to the present invention allows a user to view detail information on objects in a program, where the detail information is obtained from the additional information and/or from an external source such as the Internet or other network. As a result, demands for detail information from users may be met, thereby overcoming the limitations on the amount of data that can be transmitted from broadcasting stations or program providers to a TV receiver.

The foregoing embodiments are merely exemplary and are not to be construed as limiting the present invention. The present teachings can be readily applied to other types of apparatuses, systems and methods. The description of the present invention is intended to be illustrative, and not to

limit the scope of the claims. Many alternatives, modifications, and variations will be apparent to those skilled in the art.--

In the Claims

The claims have been amended as follows:

1. (Amended) An apparatus for displaying additional information, the apparatus comprising:
 - a selector which receives a program selection input from a user and which includes a key for requesting detail information on a selected [an] object in a selected program;
 - a data processor which receives broadcasting signals, selects and demodulates from the received broadcasting signals the selected program, and separates additional information from the demodulated signal;
 - a decoder which detects from the additional information, detail information on each of objects in the selected program being displayed, and decodes the detail information into a plurality of object information;
 - a storage which stores the plurality of object information;

a display which displays an object information stored in the storage when the [a] user requests to view detail information on a particular [an] object being displayed in the selected program, through said key on the selector, where said object information corresponds to the object being displayed and selected by the user from the objects of the selected program; and

a controller which controls the separation of the additional information data, the decoding of the detail information, the storing of the plurality of object information, and the display of the object information.

2. (Amended) An apparatus of claim 1, further comprising a modem through which the controller connects to an external source to obtain detail information in response to a request from the [a] user to view detail information.

3. (Amended) An apparatus of claim 2, wherein the controller connects to an Internet to search for the detail information requested by the [a] user when said detail information is not included in the additional information.

4. (Amended) An apparatus of claim 2, wherein the controller connects directly to a host or a server in a program provider to obtain the detail

information requested by the [a] user when said detail information is not included in the additional information.

7. (Amended) An apparatus of claim 1, wherein the controller indicates to the [informs a] user that there is detail information on objects in addition to the program being displayed.

8. (Amended) An apparatus of claim 7, wherein the controller indicates to the [informs a] user that there is detail information on objects by displaying an item list in a form of a menu on the display at a predetermined position.

10. (Amended) A method for displaying additional information, the method comprising:

receiving a program selection input from a user through a selector which includes a key for requesting detail information on a selected [an] object in a selected program;

receiving broadcasting signals, selecting and demodulating from the received broadcasting signals a program selected by the [a] user through the selector, and separating additional information from the demodulated signal;

detecting from the additional information, detail information on each of objects in the selected program being displayed, and decoding the detail information into a plurality of object information;

storing the plurality of object information; and

displaying an object information stored in the storage when the [a] user requests to view detail information on a particular [an] object being displayed in the selected program, where said object information corresponds to the object being displayed and selected by the user from the objects of the selected program.

11. (Amended) A method of claim 10, further comprising connecting to an external source to obtain detail information in response to a request from the [a] user to view detail information.

12. (Amended) A method of claim 11, wherein the connecting step connects to an Internet to search for the detail information requested by the [a] user when said detail information is not included in the additional information.

13. (Amended) A method of claim 12, wherein said detail information not included in additional information is [may be] requested by inputting characters through the selector.

14. (Amended) A method of claim 11, wherein the connecting step connects directly to a host or a server in a program provider to obtain the detail information requested by the [a] user when said detail information is not included in the additional information.

15. (Amended) A method of claim 10, wherein the storing step stores the plurality of object information in an object table according to object names and wherein each object name has a corresponding characteristic table which includes detailed information.

18. (Amended) A method of claim 17, wherein the informing step indicates to the [a] user that there is detail information on objects by displaying an item list in a form of a menu on the display at a predetermined position.